

CBEA Suppliers Summit

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Kathy Loftus
Whole Foods

Jim McClendon
Walmart Stores

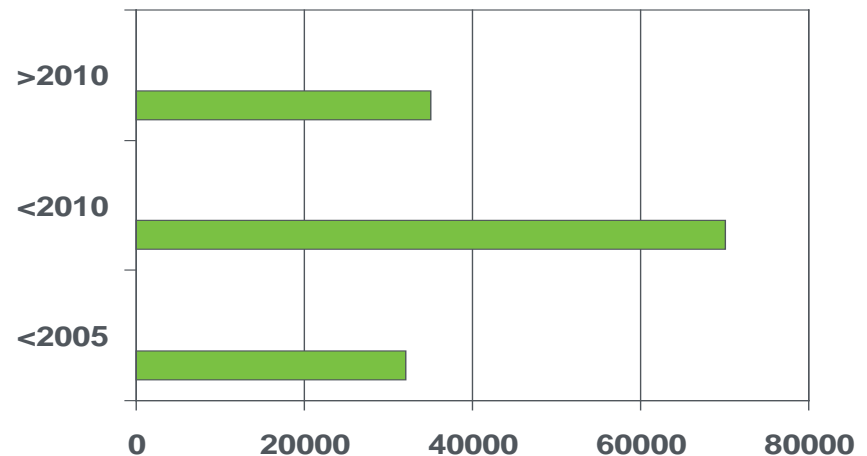


Retailer Energy Alliance

January 28, 2010

**Commercial Building
Energy Alliances**

- 13,000,000 square feet
- >830,000 MWh
- ~325 locations (stores, DCs, facilities)
- We haven't grown organically (acquired older stock)
- 32k through 2005
- 50–80k through 2010
- 35–40k 2010 and beyond!



Today

U.S. DEPARTMENT OF
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Brazil



U.S.



Mexico



China



Japan



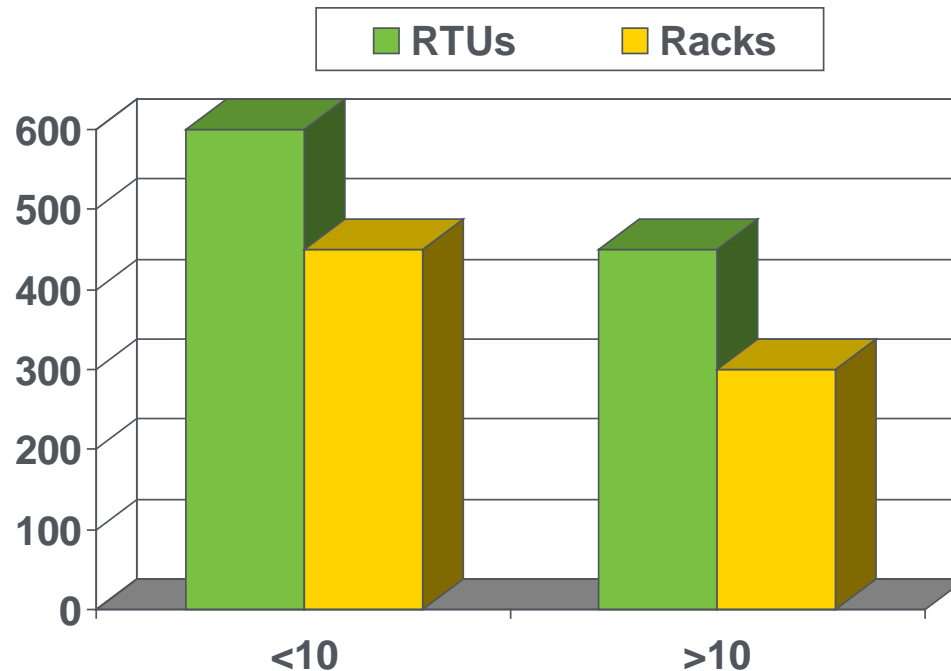
Quick Stats:
800 Million SF
\$400 Billion Ann.
200 Million Cust/Wk
2 Million Associates
80,000 Suppliers
8,200 Stores/Clubs
55 Banners
15 Countries



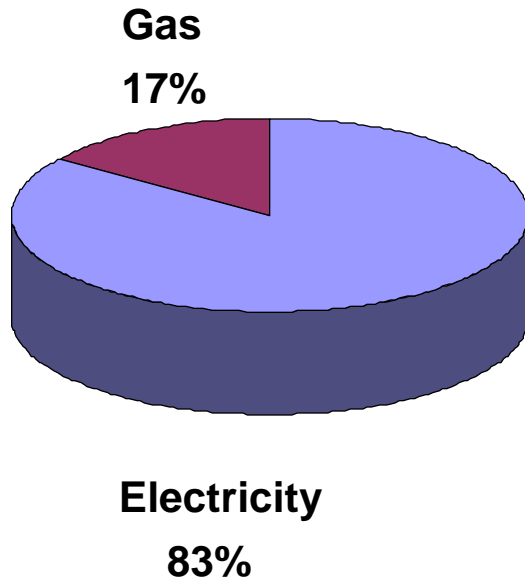
**Commercial Building
Energy Alliances**

Current Footprint

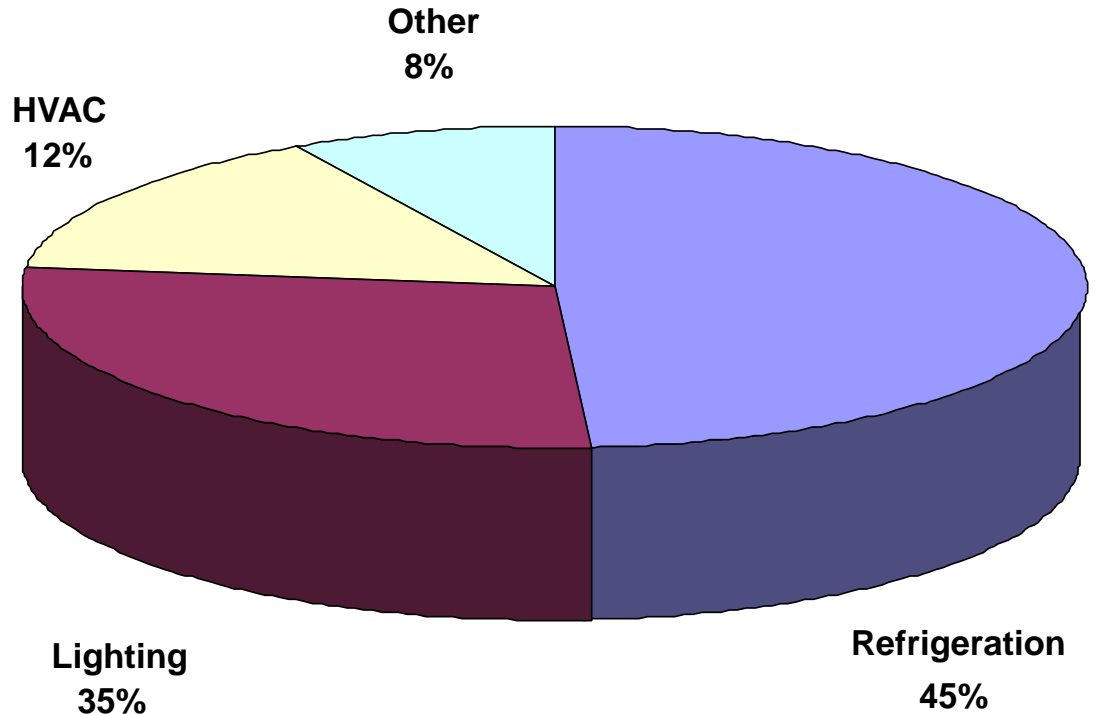
- >1,000 RTUs (many are old and need replacement)
- Some stores need added dehumidification (even newer stores recently designed)
- >750 refrigeration racks; several distributed refrigeration systems (will be needing retrofits)
- Many stores with antiquated controls systems; some without lighting, HVAC, and anti-sweat controls



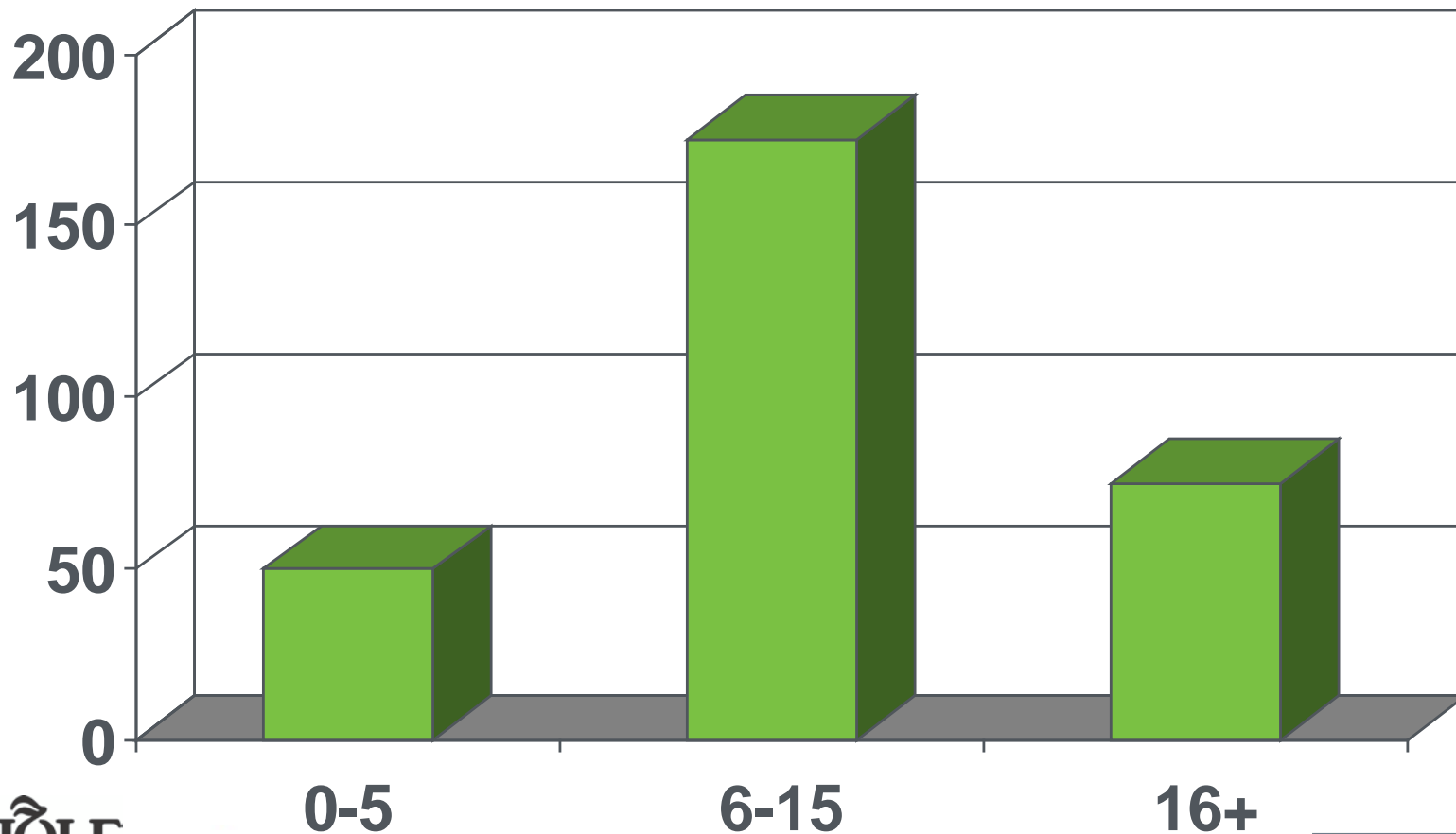
Energy Use Breakdown



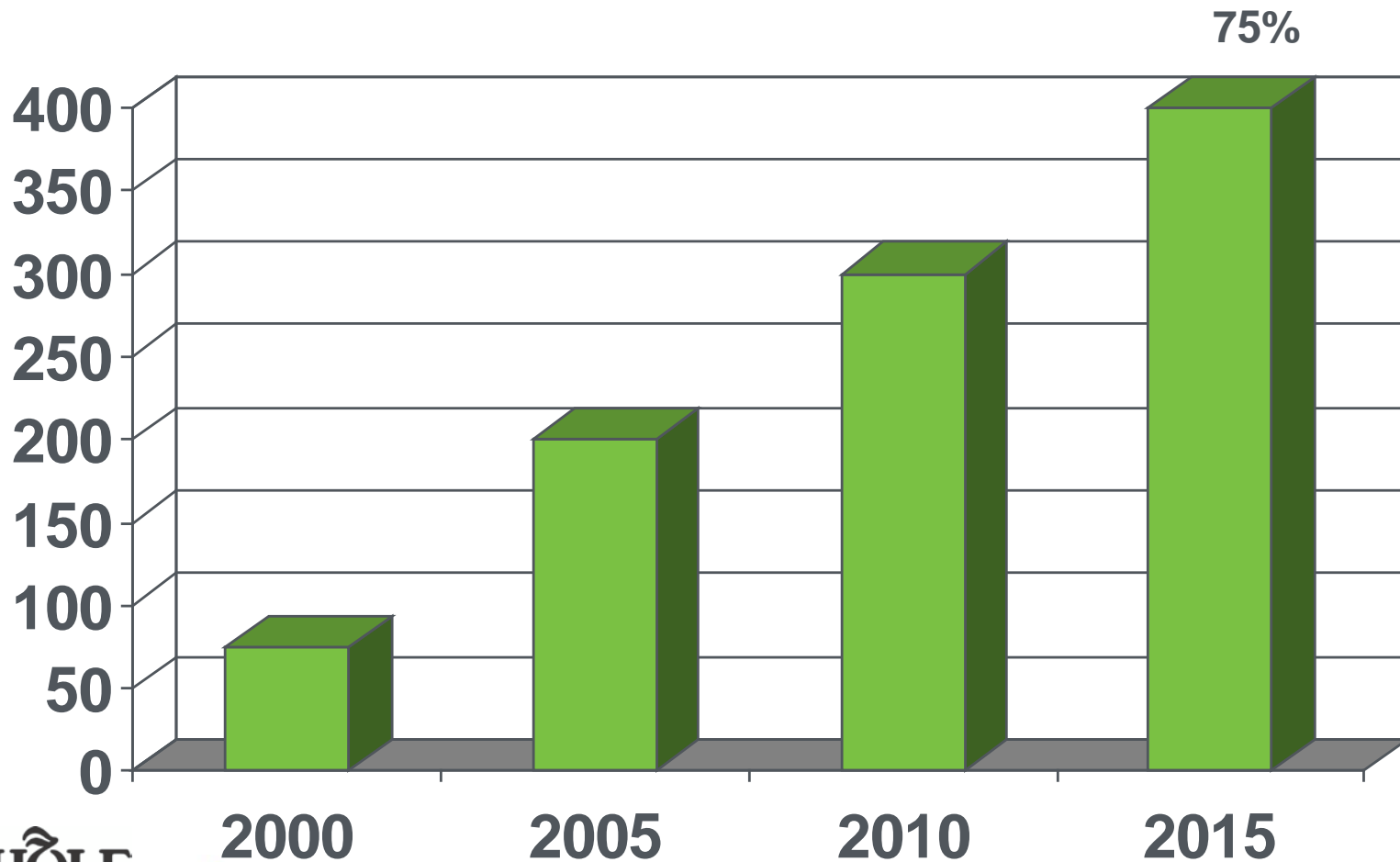
Electricity by End Use



Existing Building Stock

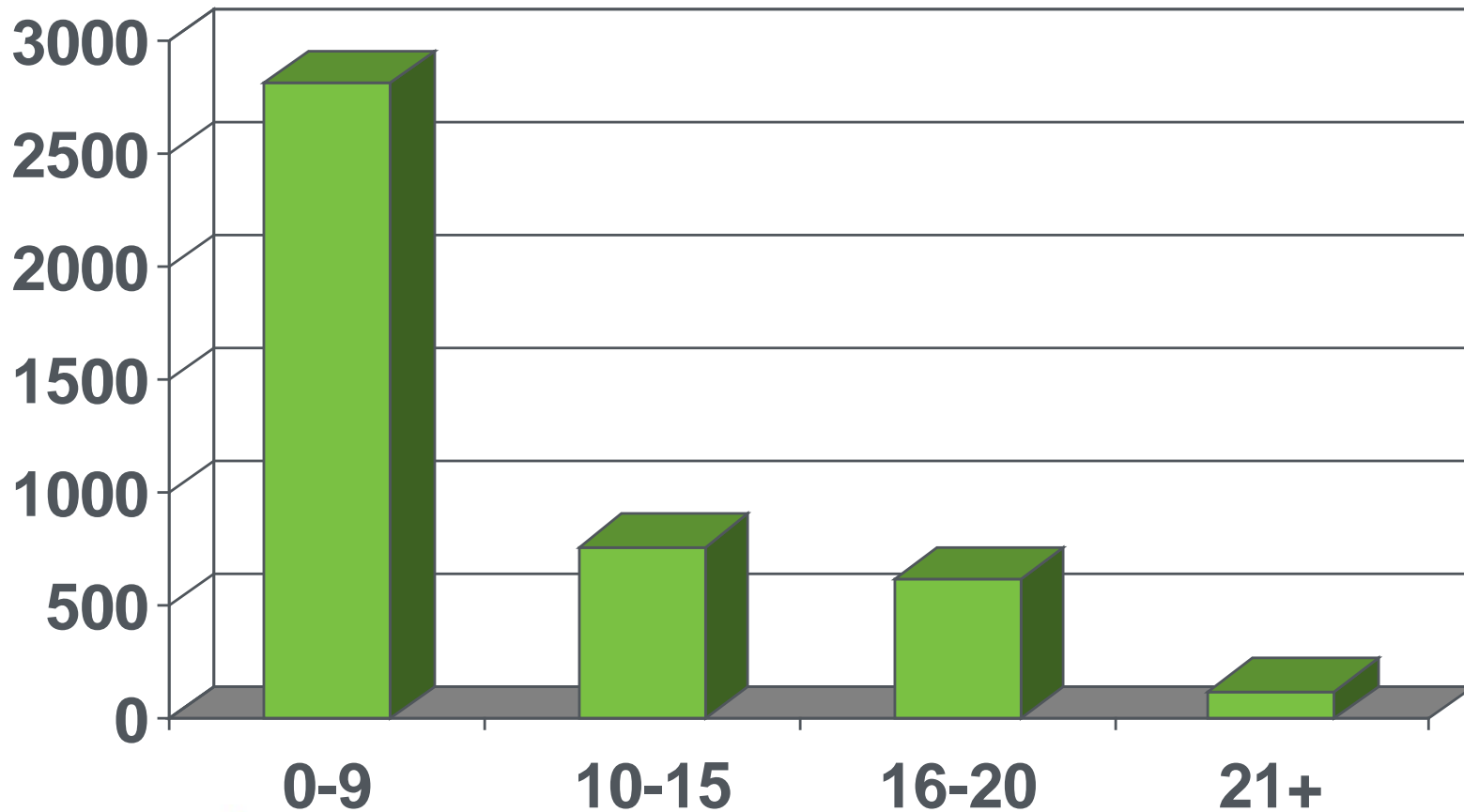


Existing Building Stock

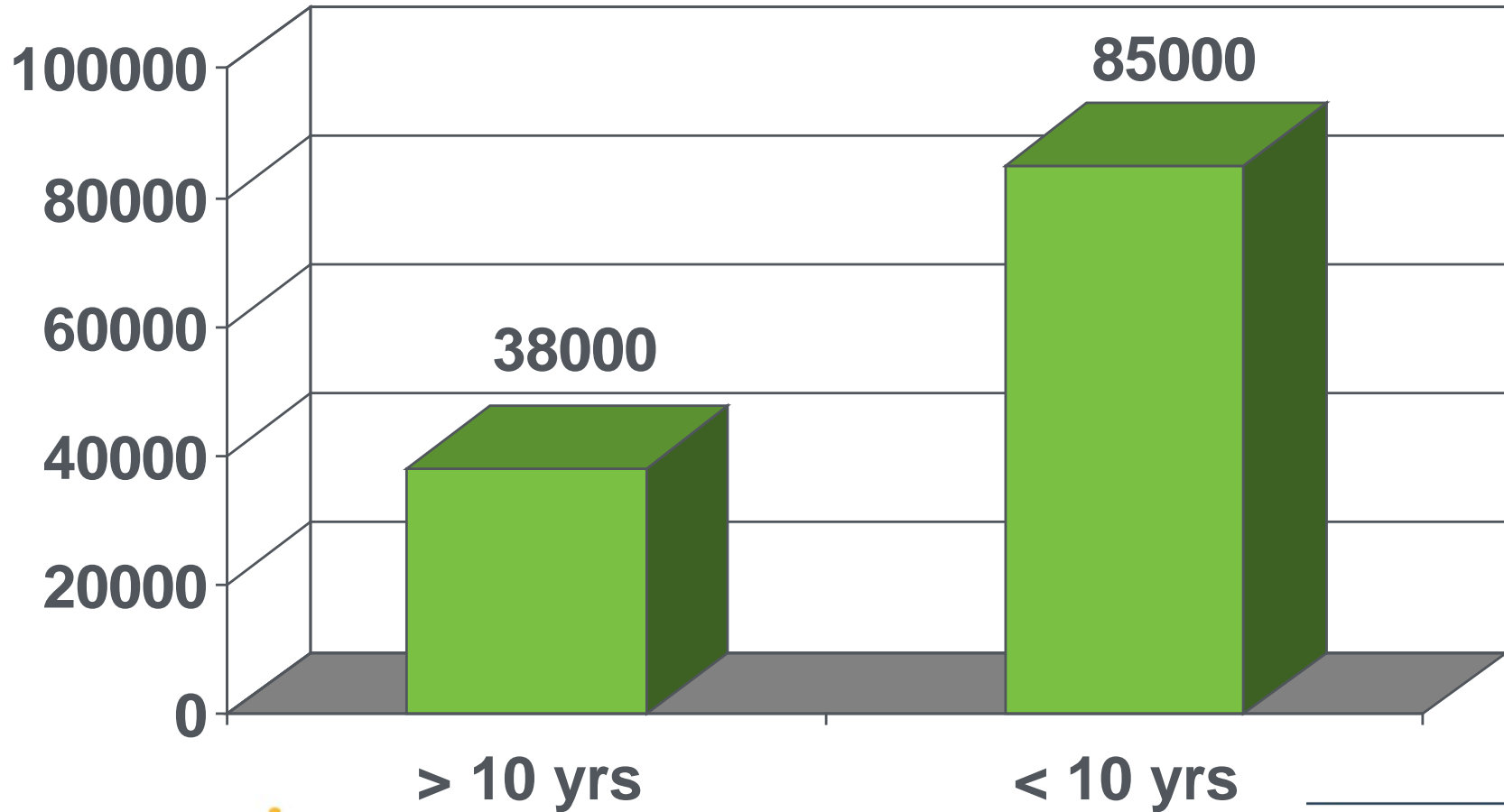


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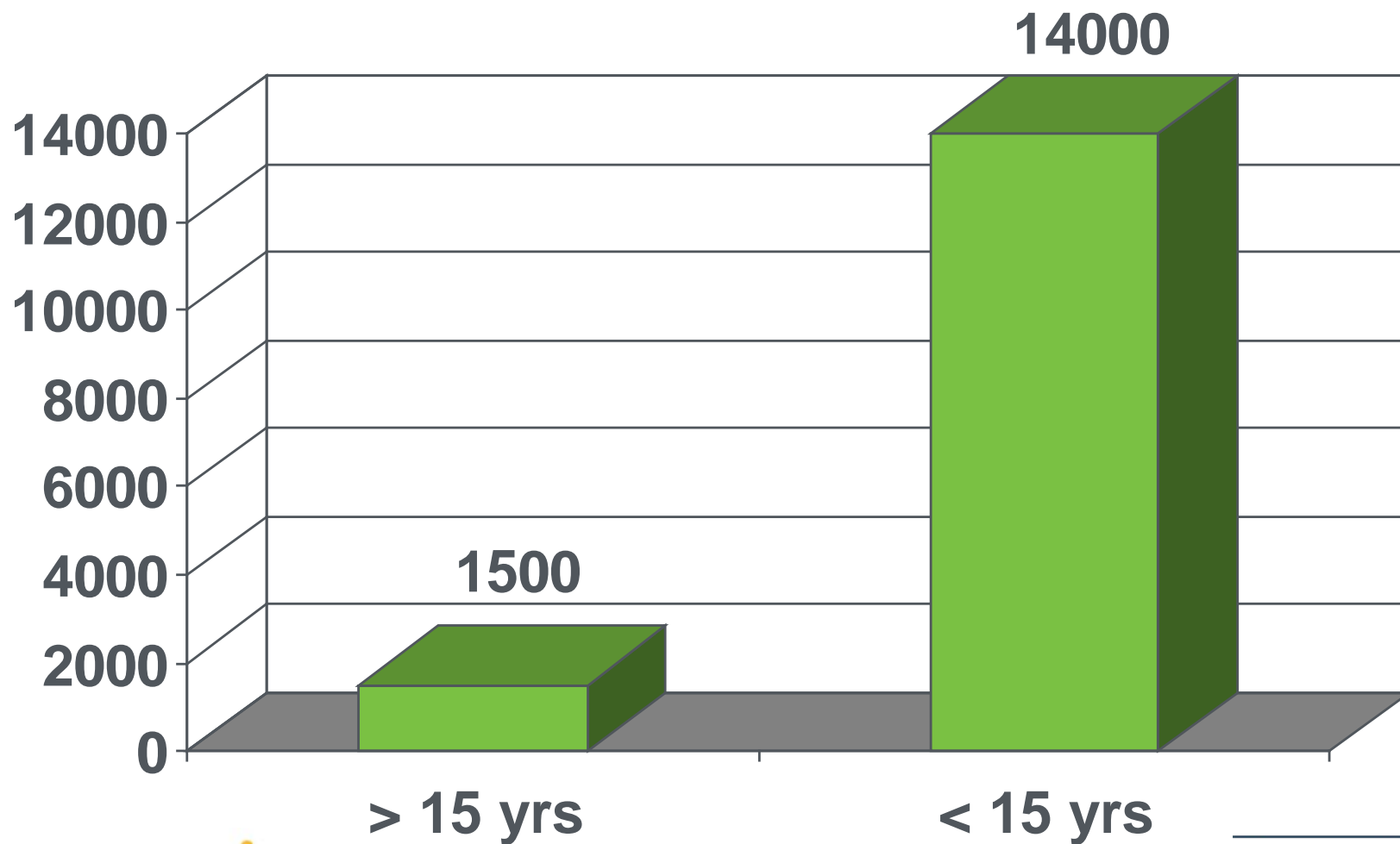
Existing Building Stock (U.S.)



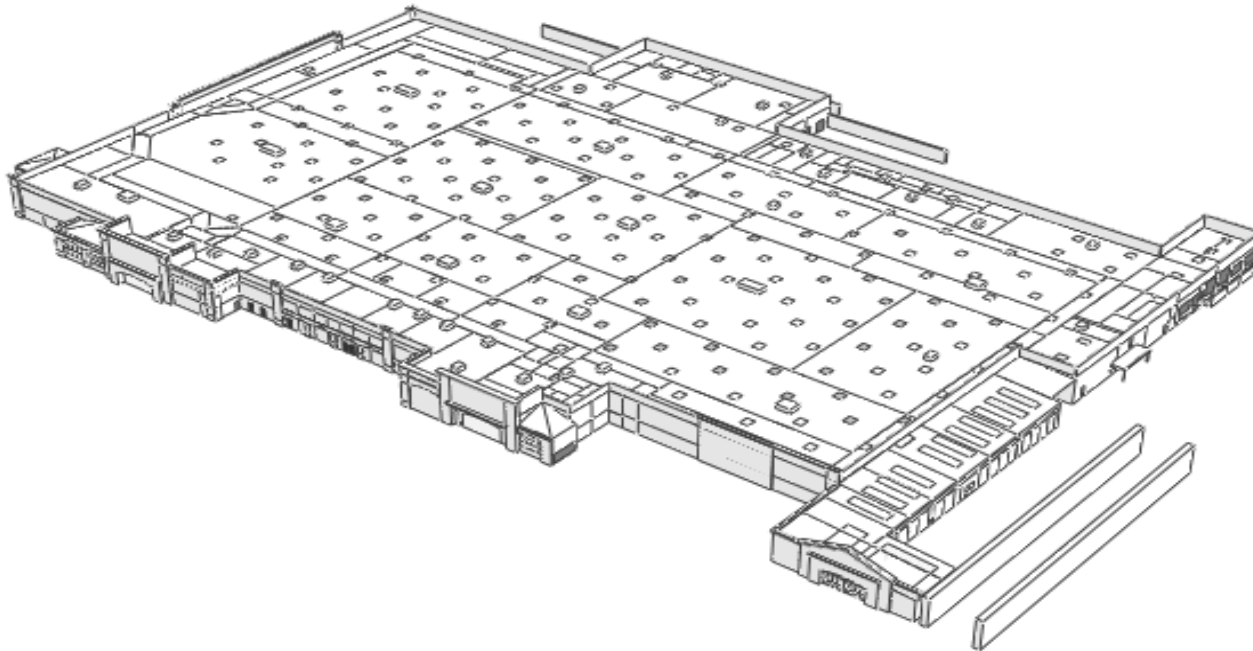
RTUs



Racks



Formats Forward



2005

195

2010

180

2011

150

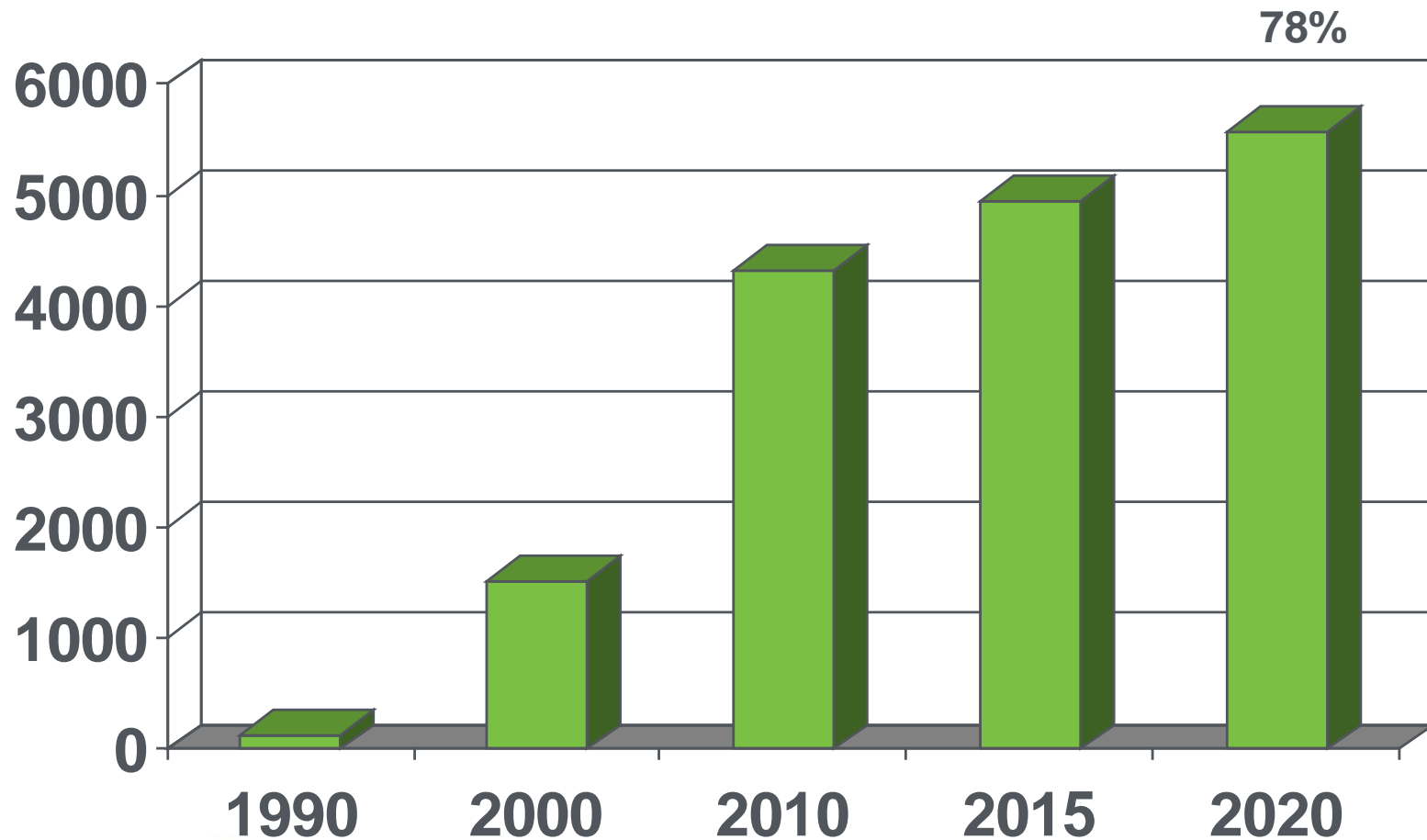
2012

120



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Existing Building Stock (U.S.)



- Decentralized -12 regions
- Many constituents need to “approve”
- Real Estate and Permitting limitations
- Dozens of designers, architects, engineers, purchasing methods
- Traditional design process results in crunched schedules (for every vision ...)
- **Development, Design, Engineering, Service & Operations Communities catching need focused education and ongoing training**

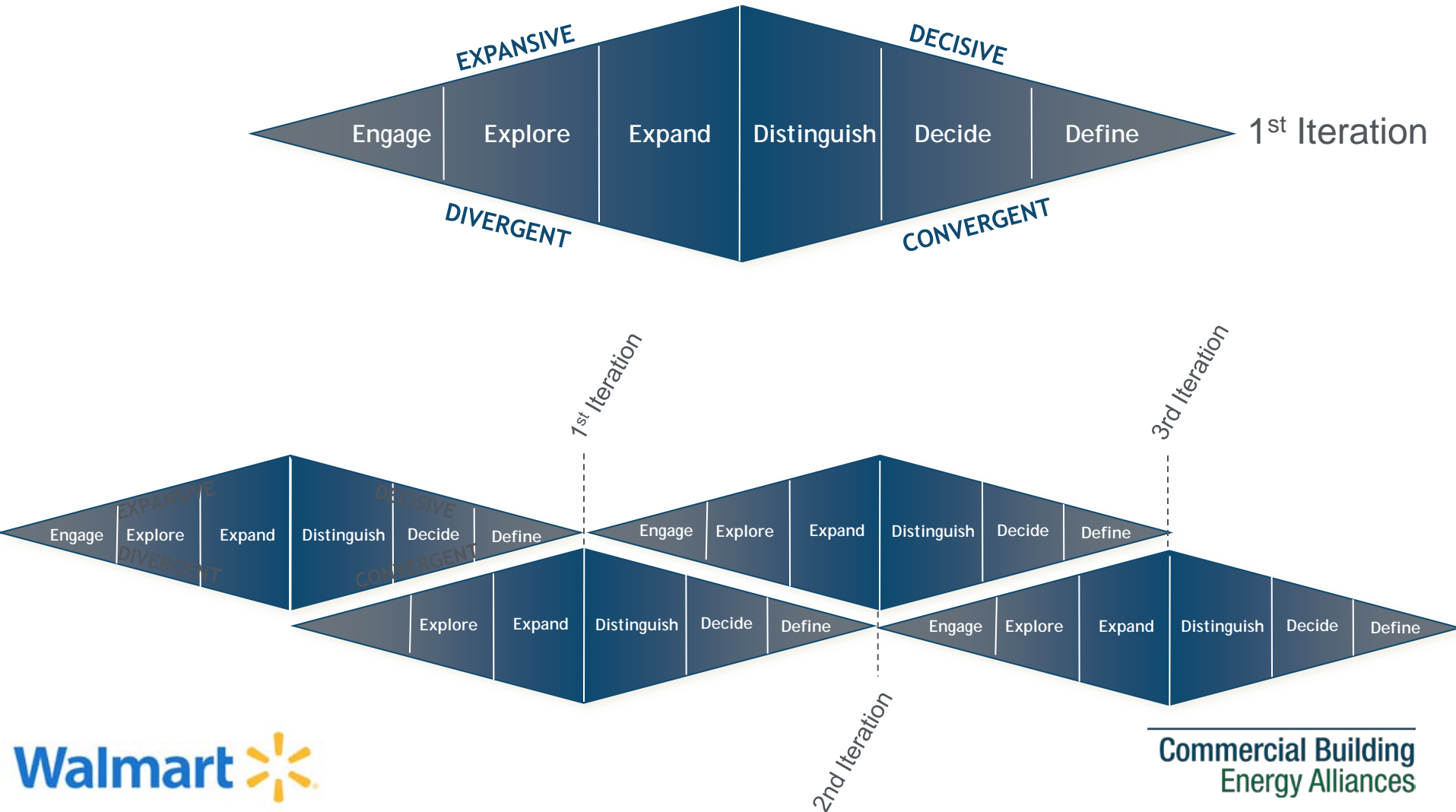


**Commercial Building
Energy Alliances**

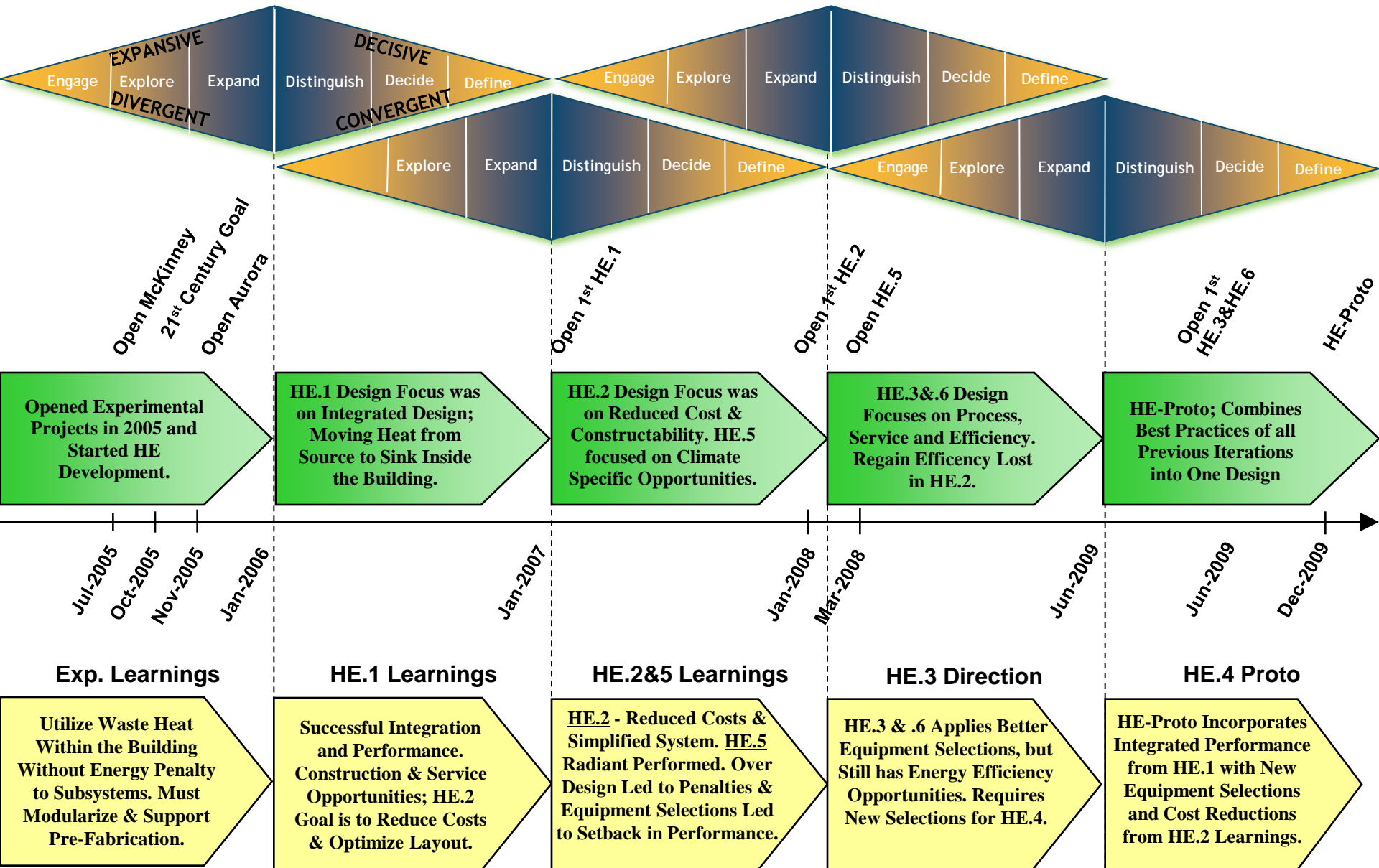
Case Study



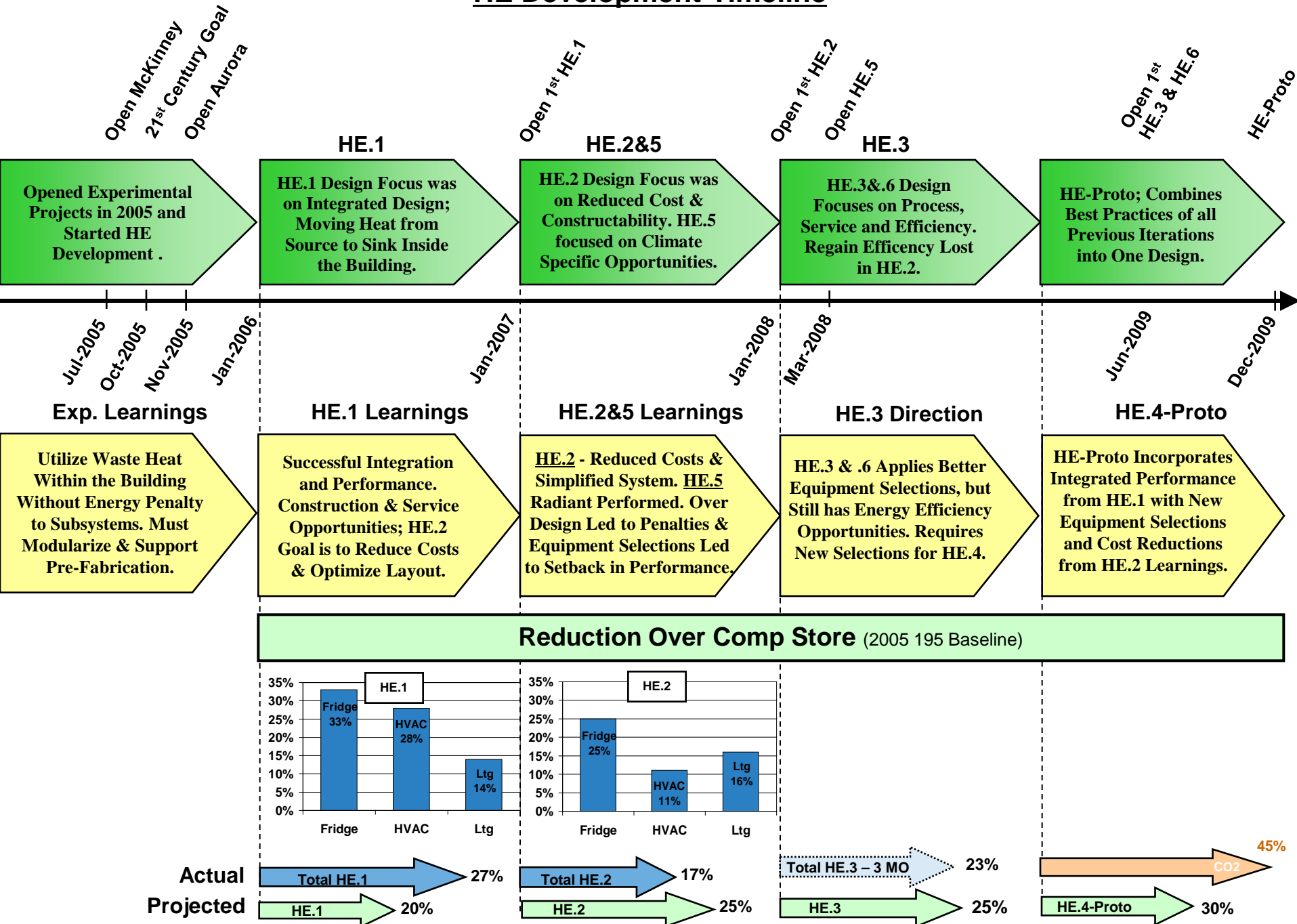
‘HE’ Pilot Program — “25% More Efficient than 2005 Baseline”



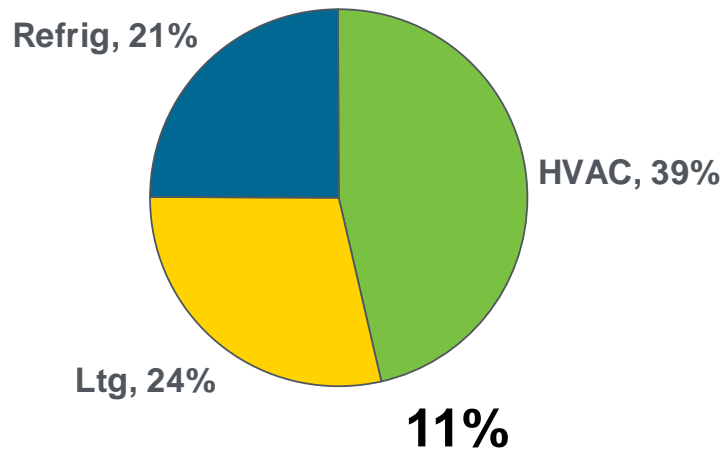
HE Development Timeline



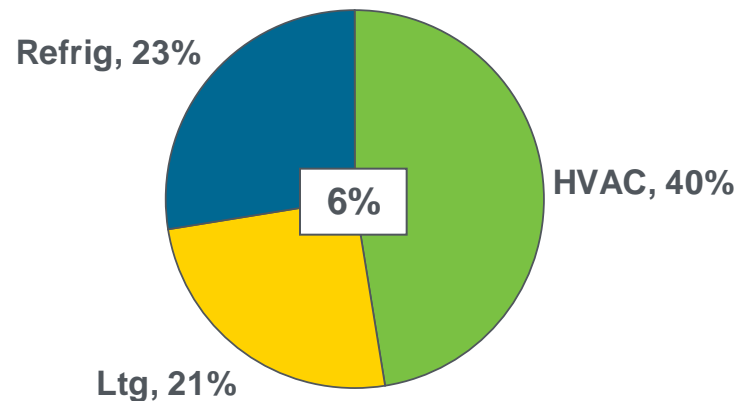
HE Development Timeline



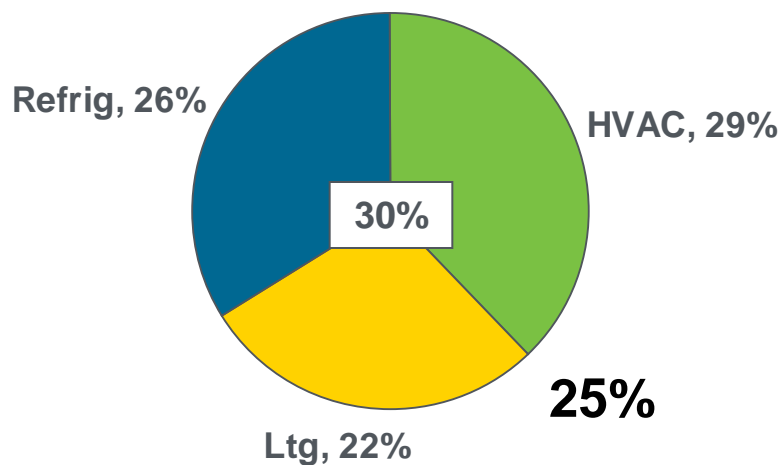
2005



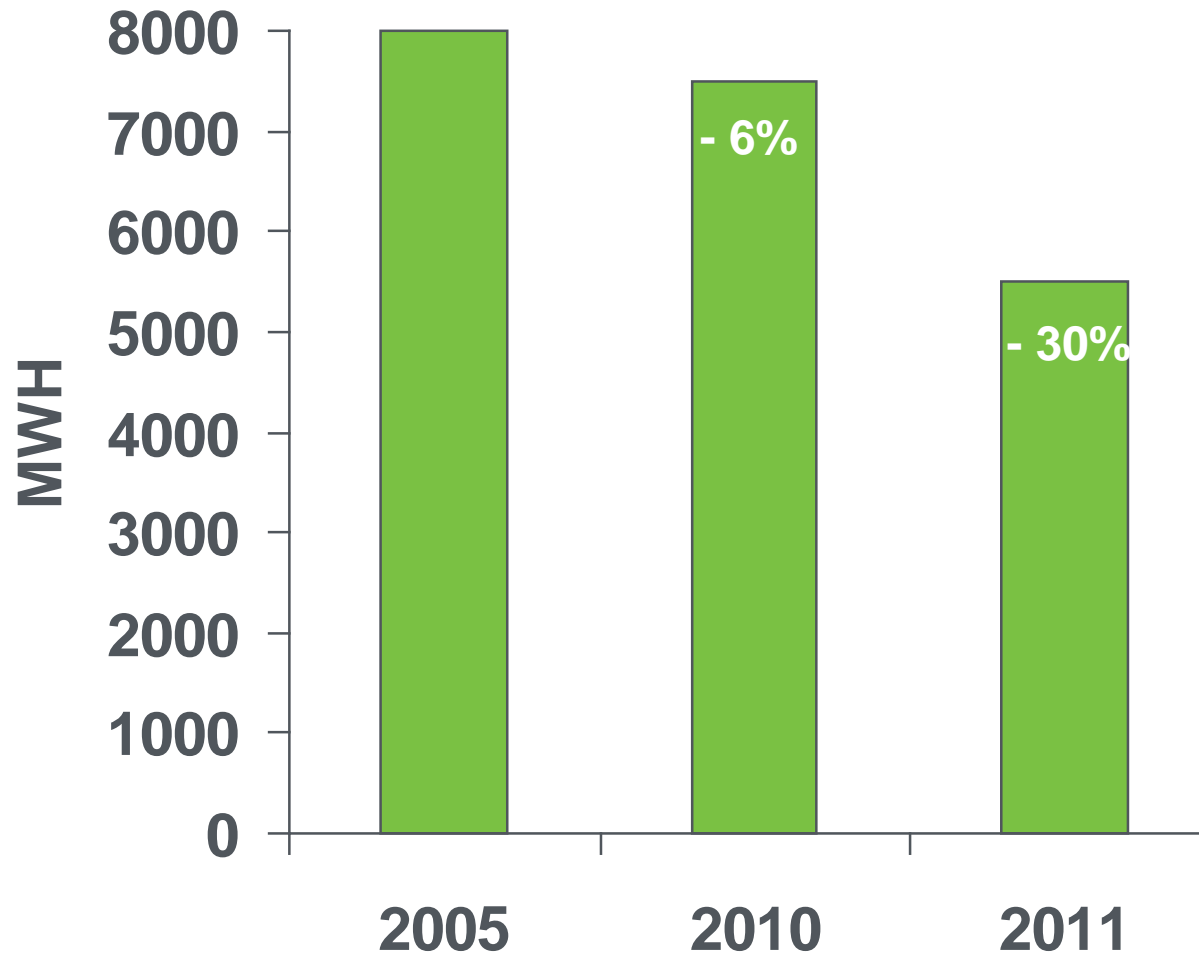
2010



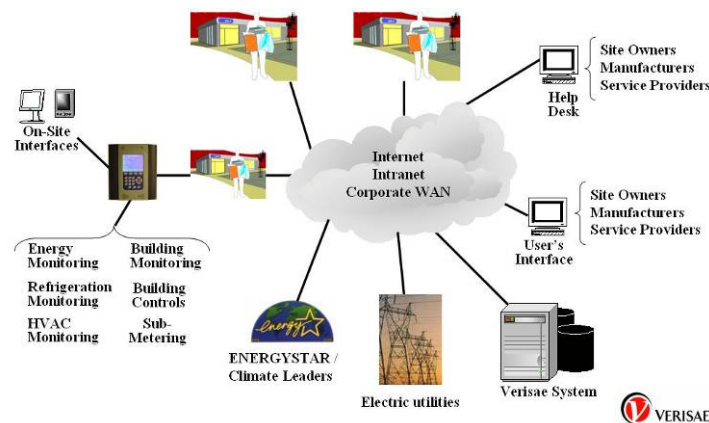
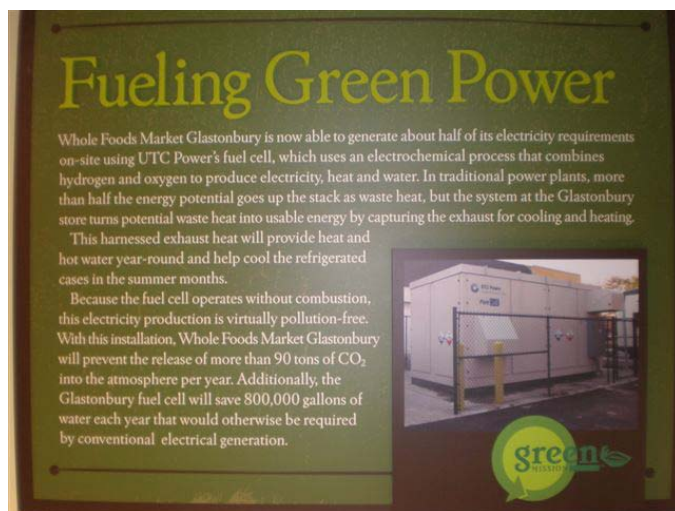
2011



195 Prototypical



- Total Life Cycle Planning
- Focus on integrated design, right sizing (building to systems to equipment)
- Lower energy consumption by 25–50%; utilize distributed on-site energy
- Smart Building Technology Systems (controls and metering)
- Design for maximum operations and maintenance efficiencies
- Comprehensive commissioning; continuous re-commissioning
- Establish and enhance communities — educate customers and team members



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- Location: climate, shade, roof surface area, competition for daylighting, green roofs, etc.
- Renewable case studies; solar on 30+ roofs; wind feasibility for Pigeon Cove; waste oil to fuel CHP at Everett Bakehouse; future: organic waste to AD for fuel cells



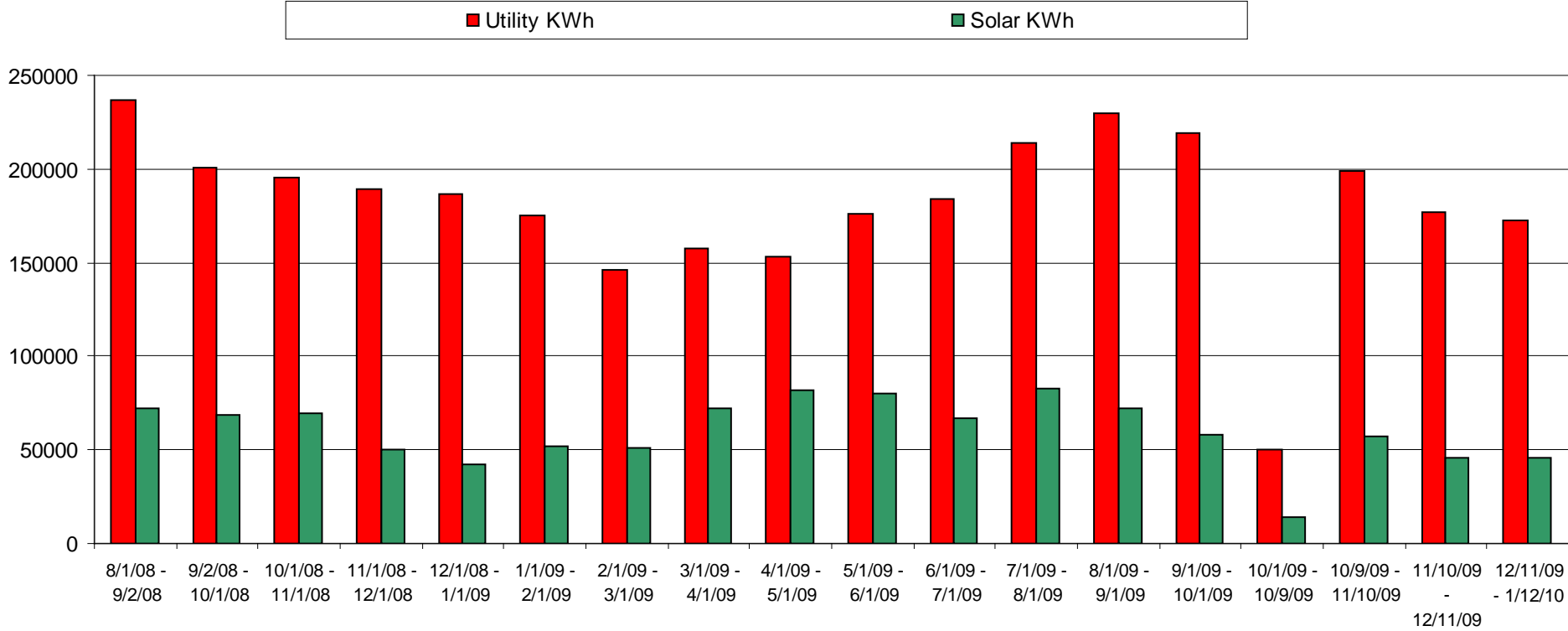
Getting to NZE:



- Reduced Footprint
- Roof Competition
- Micro Climates
- Urban — Shading
- On-Site Limitations
- (Smart) Grid Interface



#2523 Brea, CA - Monthly Usage, kWh



Thank You



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Energy Alliances**